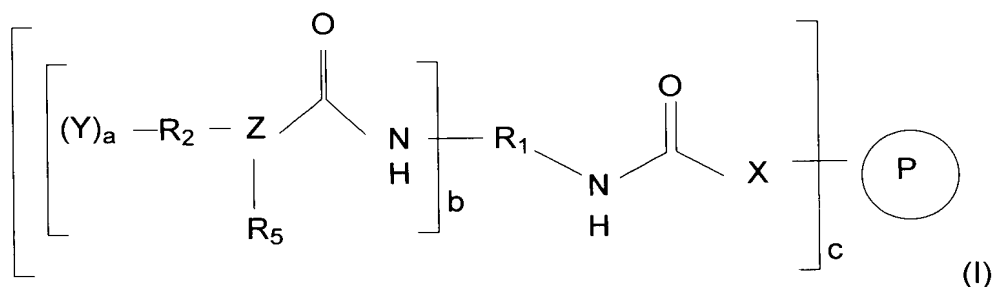
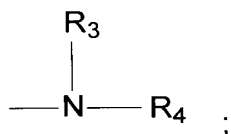


## ABSTRACT

Catalysts useful for low-cure powder coating compositions are disclosed, having the structure (I):



wherein  $R_1$  is an organic radical having 6 to 25 carbon atoms; each  $R_2$  is independently a multivalent hydrocarbon group having 1 to 20 carbon atoms; Y is



each  $R_3$  and  $R_4$  are independently alkyl or aryl groups having 1 to 12 carbon atoms; each Z is independently oxygen or nitrogen;  $R_5$  is absent when Z is oxygen and  $R_5$  is hydrogen, an alkyl or aryl group having 1 to 20 carbon atoms, or  $(Y)_a - R_2 -$  when Z is nitrogen; a, b, and c are integers; each X is independently S, O, or N( $R_6$ ); each  $R_6$  is independently hydrogen or an alkyl or aryl group having 1 to 12 carbon atoms; and P is a polymeric material.